PCT09

RAW SEQUENCE LISTING DATE: 10/04/2001 PATENT APPLICATION: US/09/936,190 TIME: 15:29:01

Input Set : A:\Nobf5002.app

Output Set: N:\CRF3\10042001\I936190.raw

```
3 <110> APPLICANT: STEELE, Christopher L.
              DIXON, Richard A.
      6 <120> TITLE OF INVENTION: GENETIC MANIPULATION OF ISOFLEYOF DE PERENCE: 11137/05006
      8 <130> FILE REFERENCE: 11137/05006
C--> 10 <140> CURRENT APPLICATION NUMBER: US/09/936,190
C--> 11 <141> CURRENT FILING DATE: 2001-09-13
     13 <150> PRIOR APPLICATION NUMBER: 60/123,267
     14 <151> PRIOR FILING DATE: 1999-03-08
     16 <160> NUMBER OF SEQ ID NOS: 5
     18 <170> SOFTWARE: PatentIn Ver. 2.1
     20 <210> SEO ID NO: 1
     21 <211> LENGTH: 1717
     22 <212> TYPE: DNA
     23 <213> ORGANISM: Glycine max
     25 <220> FEATURE:
     26 <221> NAME/KEY: CDS
     27 <222> LOCATION: (36)..(1598)
     29 <400> SEQUENCE: 1
     30 gagcaaagat caaacaaacc aaggacgaga acacg atg ttg ctt gaa ctt gca
                                                                            53
                                                Met Leu Leu Glu Leu Ala
     31
     32
     34 ctt ggt tta ttg gtt ttg gct ctg ttt ctg cac ttg cgt ccc aca ccc
                                                                            101
     35 Leu Gly Leu Leu Val Leu Ala Leu Phe Leu His Leu Arg Pro Thr Pro
                                                               20
     36
                                          15
                      10
     38 act gca aaa tca aaa gca ctt cgc cat ctc cca aac cca cca agc cca
                                                                            149
     39 Thr Ala Lys Ser Lys Ala Leu Arg His Leu Pro Asn Pro Pro Ser Pro
                                                           35
                                      30
                  25
     40
                                                                            197
     42 aag cct cgt ctt ccc ttc ata gga cac ctt cat ctc tta aaa gac aaa
     43 Lys Pro Arg Leu Pro Phe Ile Gly His Leu His Leu Leu Lys Asp Lys
                                                       50
             40
                                  45
     44
     46 ctt ctc cac tac gca ctc atc gac ctc tcc aaa aaa cat ggt ccc tta
                                                                            245
     47 Leu Leu His Tyr Ala Leu Ile Asp Leu Ser Lys Lys His Gly Pro Leu
                                                                       70
     48 55
     50 ttc tct ctc tac ttt ggc tcc atg cca acc gtt gtt gcc tcc aca cca
                                                                            293
     51 Phe Ser Leu Tyr Phe Gly Ser Met Pro Thr Val Val Ala Ser Thr Pro
                                              80
                                                                   85
     52
                          75
     54 gaa ttg ttc aag ctc ttc ctc caa acg cac gag gca act tcc ttc aac
                                                                            341
     55 Glu Leu Phe Lys Leu Phe Leu Gln Thr His Glu Ala Thr Ser Phe Asn
                                                              100
                      90
                                          95
     56
     58 aca agg ttc caa acc tca gcc ata aga cgc ctc acc tat gat agc tca
                                                                            389
     59 Thr Arg Phe Gln Thr Ser Ala Ile Arg Arg Leu Thr Tyr Asp Ser Ser
                105
                                     110
                                                          115
     60
     62 gtg gcc atg gtt ccc ttc gga cct tac tgg aag ttc gtg agg aag ctc
                                                                            437
     63 Val Ala Met Val Pro Phe Gly Pro Tyr Trp Lys Phe Val Arg Lys Leu
                                                      130
                                 125
            120
     64
                                                                            485
     66 atc atg aac gac ctt ctc aac gcc acc act gta aac aag ttg agg cct
     67 Ile Met Asn Asp Leu Leu Asn Ala Thr Thr Val Asn Lys Leu Arg Pro
```

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/936,190

DATE: 10/04/2001
TIME: 15:29:01

Input Set : A:\Nobf5002.app

Output Set: N:\CRF3\10042001\I936190.raw

68	135					140					145					150	
		agg	acc	caa	саσ		cac	aaσ	ttc	ctt		att	atq	qcc	caa	qqc	533
	_			Gln													
72	ЦСи	9	1111	0111	155	110	5			160	5				165	- 1	
	αca	ααα	αca	cag		CCC	ctt	σac			σασ	σασ	ctt	cta		taa	581
	_		_	Gln	_												
76	ALG	GIU	Ата	170	пуз	FIO	пеп	гэр	175	1111	Olu	Olu	ПСи	180	D _I U		
	200	220	3.00	acc	2+0	taa	ata	ata		ctc	aac	παπ	act		αaα	atc	629
			_	Thr													023
	THE	ASII		TIIT	TIG	ser	Met	190	Mec	ьеи	дту	GIU	195	Giu	Giu	110	
80			185			~~~	~++		224	2+0	+++	~~		+20	200	ctc	677
				gct													077
_	Arg	_	ire	Ala	Arg	GIU		ьeu	гаг	TTE	Pne		GIU	тут	Ser	пеп	
84		200		• -			205					210			+ - +	~~~	725
				atc													725
		Asp	Phe	Ile	Trp		Leu	гàг	HIS	Leu		val	СТА	гуѕ	туг		
	215					220					225					230	772
	_			gac	_												773
	Lys	Arg	Ile	Asp		Ile	Leu	Asn	Lys		Asp	Pro	Val	Val		Arg	
92					235					240					245		001
	_		_	aag	_	_											821
95	Val	Ile	Lys	Lys	Arg	Arg	Glu	Ile		Arg	Arg	Arg	Lys		GLY	Glu	
96				250					255					260			
																gaa	869
99	Val	Val	Glu	Gly	Glu	Val	Ser	Gly	Val	Phe	Leu	Asp			Leu	Glu	
100			265					270					275				
																atc	917
103	Phe	e Ala	a Glu	ı Asp	Glu	Thr	Met	. Glu	ı Ile	Lys	Ile			Asp	His	s Ile	
104		280					285					290					
				gtt:					: tcg	σca	gga	aca	dac	tee		. ~~~	965
107	Lys	Gly			T	_											
			, Leu	ı Val	. vaı	. Asp	Phe	Phe	e Ser							c Ala	
	295	.				300				Ala	Gly 305	Thr	Asp	Ser	Thi	310	
	gto	j gca	a aca	ı gag	tgg	300 gca	ttg	gca	gaa	Ala cto	Gly 305 ato	Thr aac	Asp aat	Ser cct	Thi	Ala 310 g gtg	1013
	gto	j gca	a aca	ı gag	tgg	300 gca	ttg	gca	gaa	Ala cto	Gly 305 ato	Thr aac	Asp aat	Ser cct	Thi	310	1013
	gto Val	j gca	a aca	ı gag	tgg	300 gca Ala	ttg	gca	gaa	Ala cto	305 ato	Thr aac	Asp aat	Ser cct	Thi	Ala 310 g gtg Val	1013
111 112	gto Val	g gca Ala	a aca	ı gag Glu	tgg Trp 315	300 gca Ala	ttg Leu	gca Ala	ı gaa ı Glu	Ala cto Leu 320	305 ato	Thr aac Asr	aat Asn	Ser cct	t aag Lys 325	Ala 310 g gtg Val	1013 1061
111 112 114	gtg Val	g gca Ala	a aca a Thi	gag Glu gct	tgg Trp 315	300 gca Ala gag	ttg Leu gag	gca Ala	gaa Glu	cto Leu 320	Gly 305 ato Ile	Thr aac Asr	aat Asn gga	Ser cct Pro	t aag Lys 325 gag	Ala 310 g gtg s Val	
111 112 114	gto Val tto	g gca Ala	a aca a Thi	gag Glu gct	tgg Trp 315 cgt	300 gca Ala gag	ttg Leu gag	gca Ala	gaa Glu	cto Leu 320 agt	Gly 305 ato Ile	Thr aac Asr	aat Asn gga	Ser cct Pro	t aag Lys 325 gag Asp	Ala 310 g gtg s Val	
111 112 114 115 116	gto Val tto Leu	g gca Ala g gaa i Glu	a aca a Thi a aag a Lys	gag Glu gct Ala 330	tgg Trp 315 cgt	300 gca Ala gag Glu	ttg Leu gag Glu	gca Ala gto Val	gaa Glu tac Tyr 335	cto Leu 320 agt	305 ato 11e gtt	Thr aac Asr gtg	aat Asn gga Gly	ser cct Pro aag Lys 340	t aag Lys 325 gac Asp	Ala 310 g gtg s Val	
111 112 114 115 116 118	yal Val tto Leu	g gca Ala gaa Glu	a aca a Thi a aag a Lys	gag Glu gct Ala 330 gaa	tgg Trp 315 cgt Arg	300 gca Ala gag Glu	ttg Leu gag Glu	gca Ala gto Val	gaa Glu tac Tyr 335	cto Leu 320 agt	Gly 305 atc Ile gtt Val	Thr aac Asr ytal	aat Asn gga Gly	Ser cct Pro aag Lys 340	t aag Lys 325 gac Asp	Ala 310 g gtg Val aga Arg	1061
111 112 114 115 116 118	yal Val ttg Leu ctt	g gca Ala gaa Glu	a aca a Thi a aag a Lys	gag Glu gct Ala 330 gaa Glu	tgg Trp 315 cgt Arg	300 gca Ala gag Glu	ttg Leu gag Glu	gca Ala gto Val	gaa Glu tac Tyr 335 aac	cto Leu 320 agt	Gly 305 atc Ile gtt Val	Thr aac Asr ytal	aat Asn gga Gly	ser cct Pro aag Lys 340 aga Arg	t aag Lys 325 gac Asp	Ala 310 g gtg Val aga Arg	1061
111 112 114 115 116 118 119 120	yal Val tto Leu	g gca Ala gaa Glu gto	a aca a Thi a aag i Lys gad L Asp 345	gag Glu gct Ala 330 gaa Glu	tgg 315 cgt Arg	300 gca Ala gag Glu gac Asp	ttg Leu gag Glu act	gca Ala gto Val caa Glr 350	gaa Glu tac Tyr 335 aac Asn	cto Leu 320 agt Ser ctt	Gly 305 atc Ile gtt Val	Three aac Asr Yal Val	aat Asn gga Gly att	Ser cct Pro aag Lys 340 aga Arg	t This aag	Ala 310 g gtg Val aga Arg atc Ile	1061
111 112 114 115 116 118 119 120 122	yal Val tto Leu ctt	g gca Ala gaa Glu gta Val	a aca a Thi a aag i Lys gag 345 gag	gag Glu gct Ala 330 gaa Glu gaca	tgg Trp 315 cgt Arg gtt Val	300 gca Ala gag Glu gac Asp	ttg Leu gag Glu act Thr	gca Ala gto Val caa Glr 350	tac Tyr 335 aac Asn	cto Leu 320 agt Ctt Leu ctt	Gly 305 atc Ile Gtt Ctt	Three aac Asr gtg Val	aat Asn gga Gly att	Ser cct Pro aag Lys 340 aga Arg	taag 325 325 326 Asp Ala	Ala 310 g gtg Val aga Arg atc alle aga	1061 1109
111 112 114 115 116 118 119 120 122	yal Val ttg Leu ctt Leu yal	g gca Ala gaa Glu gaa Val	a aca a Thi a aag a Lys gag gag gag	gag Glu gct Ala 330 gaa Glu gaca	tgg Trp 315 cgt Arg	300 gca Ala gag Glu gac Asp	Leu gag Glu act Thr	gca Ala gto Val caa Glr 350 cac	tac Tyr 335 aac Asn	cto Leu 320 agt Ctt Leu cca Pro	Gly 305 atc Ile Gtt Ctt Ctt	Three aac Asr gtg Val	aat Asn gga Gly att	Ser cct Pro aag Lys 340 aga Arg	taag 325 325 326 Asp Ala	Ala 310 g gtg Val aga Arg atc Ile	1061 1109
111 112 114 115 116 118 119 120 122 123 124	yal Val ttg Leu ctt Leu yal	g gca Ala gaa Glu gaa Lys 360	a aca a Thi a aag a Lys gag gag gag	gag Glu gct Ala 330 gaa Glu gaca Thr	tgg 315 cgt Arg gtt Val	300 gca Ala gag Glu gac Asp	ttg Leu gag Glu act Thr atg Met	gca Ala gto Val caa Glr 350 cac	tac Tyr 335 aac Asn Ccg	teu 320 agt Ser ctt	Gly 305 atc Ile gtt Val cct Pro	Three aac Asr Yal Val tac Tyr	aat Asn gga Gly att	Ser cct Pro aag Lys 340 aga Arg	taag 325 325 gao Asp Ala aaa Lys	Ala 310 gtg Val aga Arg atc alle aga Arg	1061 1109
111 112 114 115 116 118 119 120 122 123 124 126	Val tto Lev ctt Lev Val	g gca Ala gaa Glu gaa Val Jaag Lys 360	a aca a Thi a aag a Lys gag gag gag gag gag	gag Glu gct Ala 330 gaa Glu gaa	tgg Trp 315 cgt Arg gtt Val	300 gca Ala gag Glu gac Asp cgc Arg	ttg Leu gag Glu act Thr atg Met 365 gag	gca Ala gto Val caa Glr 350 cac His	gaa Glu tac Tyr 335 aac Asn Ccg	teu 320 ctt Leu cca Pro	Gly 305 atc Ile Gtt Ctc Leu tat	Three aac Asr Val tac Tyr cca 370	aat Asn gga Gly att	Ser cct Pro aag Lys 340 aga Arg	This aag	Ala 310 gtg Val aga Arg atc alle aga Arg gga	1061 1109 1157
111 112 114 115 116 118 119 120 122 123 124 126 127	yal tto Lev ctt Lev yal aag	g gca Ala gaa Glu gaa Val Lys 360 g tgo	a aca a Thi a aag a Lys gag gag gag gag gag	gag Glu gct Ala 330 gaa Glu gaa	tgg Trp 315 cgt Arg gtt Val	300 gca Ala gag Glu gac Asp cgc Arg	ttg Leu gag Glu act Thr atg Met 365 gag Glu	gca Ala gto Val caa Glr 350 cac His	gaa Glu tac Tyr 335 aac Asn Ccg	teu 320 ctt Leu cca Pro	Gly 305 atc Ile Gtt Ctc Leu tat	Three aac Asr Val	aat Asn gga Gly att	Ser cct Pro aag Lys 340 aga Arg	This aag	Ala 310 gtg Val aga Arg atc alle aga Arg	1061 1109 1157
111 112 114 115 116 118 119 120 122 123 124 126 127 128	yal tto Lev ctt Lev yal aag Lys	g gca Ala gaa Glu gaa Val Lys 360 tgc	a acada Thina aaga Lys gag Jack gag Glu caca	gag Glu gct Ala 330 gaa Glu aca Thr	tgg Trp 315 cgt Arg gtt Val	300 gca Ala gag Glu gac Asp cgc Arg	ttg Leu gag Glu act Thr atg Met 365 gag Glu	gca Ala gto Val caa Glr 350 cao His	gaa Glu tac Tyr 335 aac Asn ccg	teu 320 ctt Leu cca Pro	Gly 305 atc 11e 1 gtt 1 val 2 cct 1 Pro 1 ctc 1 tat 2 385	Three aac Asr Val	aat Asn Gly att 355 Gtg Val	Ser cct Pro aag Lys 340 aga Arg Val	Thi aag 325 325 325 325 326 326 326 326 326 326 326 326 326 326	Ala 310 gtg Val aga Arg atc Ile aga Arg gga Gly 390	1061 1109 1157
111 112 114 115 116 118 119 120 122 123 124 126 127 128 130	yal tto Lev gto Val aag Lys 375	g gca Ala gaa gaa Glu gaa Yal aag Lys 360 g tgo	a acada Thina aaga Lys gagagagagagagagagagagagagagagagagagaga	gag Glu gct Ala 330 gaa Glu gaa Glu ctc	tgg Trp 315 cgt Arg gtt Val ttc	300 gca Ala gag Glu gac Asp cgc Arg	ttg Leu gag Glu act Thr atg Met 365 gag Glu gta	gca Ala gto Val caa Glr 350 cao His	gaa Glu tac Tyr 335 aac Asn ccg Pro	Ala cto Leu 320 agt Ser ctt Leu cca Pro	Gly 305 atc 11e 1 gtt 1 val 2 cct 1 Pro 1 ctc 1 tat 2 sgga	Three aac Asr Val	aat Asn gga Gly att 355 gtg Val	Ser cct Pro aag Lys 340 aga Arg Val	This aag 325 gad Asp 325 Asp 325 aag 3	Ala 310 gtg Val aga Arg atc alle aga Arg gga Gly 390 atac	1061 1109 1157 1205
111 112 114 115 116 118 119 120 122 123 124 126 127 128 130	yal tto Lev ctt Lev yal aag Lys 375 gca Ala	g gca Ala gaa gaa Glu gaa Yal aag Lys 360 g tgo	a acada Thina aaga Lys gagagagagagagagagagagagagagagagagagaga	gag Glu gct Ala 330 gaa Glu gaa Glu ctc	tgg Trp 315 cgt Arg gtt Val ttc	300 gca Ala gag Glu gac Asp cgc Arg tgt 380 aat Asn	ttg Leu gag Glu act Thr atg Met 365 gag Glu gta	gca Ala gto Val caa Glr 350 cao His	gaa Glu tac Tyr 335 aac Asn ccg Pro	Ala cto Leu 320 agt Ser ctt Leu cca Pro	Gly 305 atc 11e 1 gtt 1 val 2 ctt 2 tat 3 tat 3 tat 3 tat 3 tat 4 tat 4 tat 4 tat 6 tat 6 tat 7 tat 7 tat 7 tat 7 tat 7 tat 7 tat 8 tat 9 tat 9 tat	Three aac Asr Val	aat Asn gga Gly att 355 gtg Val	Ser cct Pro aag Lys 340 aga Arg Val	This aag 325 gad Asp 325 Asp 325 aag 3	Ala 310 gtg Val aga Arg atc Ile aga Arg gga Gly 390 atac Tyr	1061 1109 1157 1205

RAW SEQUENCE LISTING DATE: 10/04/2001 PATENT APPLICATION: US/09/936,190 TIME: 15:29:01

Input Set : A:\Nobf5002.app

Output Set: N:\CRF3\10042001\1936190.raw

	tgg Trp																1301
136				410					415					420			
	gct																1349
	Ala	Glu			Ala	Gly	Pro		Asp	Leu	Arg	Gly			Phe	Gln	
140		a+ a	425					430					435				
																ctg	1397
143	Leu	440	PIO	Pile	GTĀ	ser	445	Arg	Arg	met	Cys		GIĀ	vaı	Asn	Leu	
			toa	aas	a t a	acs.		att	att	~ ~ ~ ~ ~ ~ ~ ~ ~ ~	+ a+	450	2++	~~~	+~~	***	1445
	gct Ala																1445
	455	1111	ber	GIŽ	Mec	460	1111	пец	ьеи	Ala	465	Leu	116	GIII	Cys	470	
	gac	t.t.a	caa	at.a	cta		cca	саа	aga	cag		ttα	ааσ	aat	aat		1493
	Asp																1473
152					475	1			4 -1	480		204	<i></i> 10		485	11.52	
154	gcc	aaa	qtt	agc	atq	qaa	qaq	aga	qcc		ctc	act	att	cca		qca	1541
	Ala																
156		-		490				_	495	4				500	5		
158	cat	agt	ctt	gtc	tgt	gtt	cca	ctt	gca	agg	atc	ggc	gtt	gca	tct	aaa	1589
	His																
160			505					510				_	515			_	
162	ctc	ctt	tct	taat	ttaag	gat d	catco	gtcat	tc at	tcato	catat	gta	aatat	ttta			1638
	Leu	Leu	Ser														
164		520															
166	6 ctttttgtgt gttgataatc atcatttcaa taaggtctca ttcatctact ttttatgaag														2 6 0 0		
							_Catt	LCd	Lac	aggto	ctca	TTC	ICCL	act 1	LLLLa	itgaag	1698
168	tata	ataaq	jcc (cttc	catgo		LCati	LCa	i Lac	iggto	ctca	TTC	ILCL	ict 1	LLLLE	itgaag	1698
168 171	tata <210	ataaq O> SI	jcc (EQ II	O NO:	catgo : 2		LCati	LCa	d Lac	aggto	ctca	ttea	ICCE	ict 1	LLLE	itgaag	
168 171 172	<210 <211	ataaq D> SI L> LI	JCC (EQ II ENGTI	Cttco NO: H: 52	catgo : 2		LCati	LCd	i Lac	iggto	ctca	TTC	ILCL	act 1	LLLL	itgaag	
168 171 172 173	<210 <211 <212	ataaq D> SI L> LI D> TY	JCC (EQ II ENGTI (PE:	O NO: H: 52 PRT	catgo : 2 21			LCd	i Lai	iggto	ctca	TTC	ICC	act 1	LLLL	itgaag	
168 171 172 173 174	<210 <211 <212 <213	ataaq 0> SI 1> LI 2> TY 3> OI	JCC (EQ II ENGTI (PE: RGAN)	Cttco NO: H: 52 PRT ISM:	catgo : 2 21 Glyo			LCd	i La	iggto	ctca	LLCa	ICC	act 1	LLLL	itgaag	
168 171 172 173 174 176	<pre>tata <210 <211 <212 <213 <400</pre>	ataag 0> SI 1> LI 2> TY 3> OI 0> SI	JCC (EQ II ENGTI PE: RGANI EQUEN	Cttco NO: H: 52 PRT ISM: NCE:	catgo : 2 21 Glyo	cine	max										
168 171 172 173 174 176 177	<210 <211 <212 <213 <400 Met	ataag 0> SI 1> LI 2> TY 3> OI 0> SI	JCC (EQ II ENGTI PE: RGANI EQUEN	Cttco NO: H: 52 PRT ISM: NCE:	catgo 21 Glyo 2 Leu	cine	max			Leu					Phe		
168 171 172 173 174 176 177 178	<210 <211 <212 <213 <400 Met	ataag 0> SI 1> LI 2> TY 3> OF 0> SI Leu	JCC (EQ II ENGTI PE: RGANI EQUEN	PRT ISM: Glu	catgo 22 Glyo 2 Leu 5	cine Ala	max Leu	Gly	Leu	Leu 10	Val	Leu	Ala	Leu	Phe 15	Leu	
168 171 172 173 174 176 177 178 180	<210 <211 <212 <213 <400 Met	ataag 0> SI 1> LI 2> TY 3> OF 0> SI Leu	JCC (EQ II ENGTI PE: RGANI EQUEN	PRT SM: Glu Pro	catgo 22 Glyo 2 Leu 5	cine Ala	max Leu	Gly	Leu Lys	Leu 10	Val	Leu	Ala	Leu Arg	Phe 15	Leu	
168 171 172 173 174 176 177 178 180 181	<pre>tata <210 <211 <212 <400 Met 1 His</pre>	ataaq 0> SI 1> LI 2> TY 3> OF 0> SI Leu	JCC (EQ II ENGTI PE: RGANI EQUEN Leu Arg	PRT SM: Glu Pro 20	Glyo 2 Leu 5	cine Ala Pro	max Leu Thr	Gly Ala	Leu Lys 25	Leu 10 Ser	Val Lys	Leu Ala	Ala Leu	Leu Arg 30	Phe 15 His	Leu Leu	
168 171 172 173 174 176 177 178 180 181 183	<210 <211 <212 <213 <400 Met	ataaq 0> SI 1> LI 2> TY 3> OF 0> SI Leu	JCC GEQ II ENGTI PE: RGANI EQUEN Leu Arg	PRT SM: Glu Pro 20	Glyo 2 Leu 5	cine Ala Pro	max Leu Thr	Gly Ala Pro	Leu Lys 25	Leu 10 Ser	Val Lys	Leu Ala	Ala Leu Ile	Leu Arg 30	Phe 15 His	Leu Leu	
168 171 172 173 174 176 177 178 180 181 183 184	<pre>tata <210 <211 <212 <400 Met 1 His Pro</pre>	ataag D> SI D> LI D> TY D> SI Leu Leu Asn	GC GEQ II ENGTH PE: RGANI EQUEN Leu Arg Pro 35	PRT SM: Glu Pro 20 Pro	Glyo 2 Leu 5 Thr	cine Ala Pro	max Leu Thr Lys	Gly Ala Pro 40	Leu Lys 25 Arg	Leu 10 Ser Leu	Val Lys Pro	Leu Ala Phe	Ala Leu Ile 45	Leu Arg 30 Gly	Phe 15 His	Leu Leu Leu	
168 171 172 173 174 176 177 178 180 181 183 184	<pre>tata <210 <211 <212 <400 Met 1 His</pre>	ataag D> SI D> LI D> TY D> SI Leu Leu Asn	GC GEQ II ENGTH PE: RGANI EQUEN Leu Arg Pro 35	PRT SM: Glu Pro 20 Pro	Glyo 2 Leu 5 Thr	cine Ala Pro	max Leu Thr Lys	Gly Ala Pro 40	Leu Lys 25 Arg	Leu 10 Ser Leu	Val Lys Pro	Leu Ala Phe Leu	Ala Leu Ile 45	Leu Arg 30 Gly	Phe 15 His	Leu Leu Leu	
168 171 172 173 174 176 177 178 180 181 183 184 186 187	<pre>tata <210 <211 <212 <400 Met 1 His Pro His</pre>	ataago SI l> LI 2> TY 3> OF Leu Leu Asn Leu 50	Pro Arg Pro Arg Leu	PRT SM: Glu Pro 20 Pro Lys	Glyo 2 Leu 5 Thr	cine Ala Pro Pro	max Leu Thr Lys Leu 55	Gly Ala Pro 40 Leu	Leu Lys 25 Arg	Leu 10 Ser Leu Tyr	Val Lys Pro Ala	Leu Ala Phe Leu 60	Ala Leu Ile 45 Ile	Leu Arg 30 Gly Asp	Phe 15 His Leu	Leu Leu Ser	
168 171 172 173 174 176 177 178 180 181 183 184 186 187	<pre>tata <210 <211 <212 <400 Met 1 His Pro</pre>	ataago SI l> LI 2> TY 3> OF Leu Leu Asn Leu 50	Pro Arg Pro Arg Leu	PRT SM: Glu Pro 20 Pro Lys	Glyo 2 Leu 5 Thr	cine Ala Pro Pro	max Leu Thr Lys Leu 55	Gly Ala Pro 40 Leu	Leu Lys 25 Arg	Leu 10 Ser Leu Tyr	Val Lys Pro Ala	Leu Ala Phe Leu 60	Ala Leu Ile 45 Ile	Leu Arg 30 Gly Asp	Phe 15 His Leu	Leu Leu Ser	
168 171 172 173 174 176 177 178 180 181 183 184 186 187 189 190	<pre>tata <210 <211 <212 <400 Met 1 His Pro His Lys 65</pre>	ataago SI 1> LI 2> TY 3> OI 1> SI Leu Leu Asn Leu 50 Lys	Pro Arg Pro Arg His	PRT SM: Glu Pro 20 Pro Lys Gly	Catgo : 2 21 Glyo 2 Leu 5 Thr Ser Asp	cine Ala Pro Pro Lys Leu 70	max Leu Thr Lys Leu 55 Phe	Gly Ala Pro 40 Leu Ser	Leu Lys 25 Arg His	Leu 10 Ser Leu Tyr	Val Lys Pro Ala Phe 75	Leu Ala Phe Leu 60 Gly	Ala Leu Ile 45 Ile Ser	Leu Arg 30 Gly Asp Met	Phe 15 His Leu Pro	Leu Leu Ser Thr 80	
168 171 172 173 174 176 177 178 180 181 183 184 186 187 189 190	<pre>tata <210 <211 <212 <400 Met 1 His Pro His Lys</pre>	ataago SI 1> LI 2> TY 3> OI 1> SI Leu Leu Asn Leu 50 Lys	Pro Arg Pro Arg His	PRT SM: Glu Pro 20 Pro Lys Gly	Catgo : 2 21 Glyo 2 Leu 5 Thr Ser Asp	cine Ala Pro Pro Lys Leu 70	max Leu Thr Lys Leu 55 Phe	Gly Ala Pro 40 Leu Ser	Leu Lys 25 Arg His	Leu 10 Ser Leu Tyr	Val Lys Pro Ala Phe 75	Leu Ala Phe Leu 60 Gly	Ala Leu Ile 45 Ile Ser	Leu Arg 30 Gly Asp Met	Phe 15 His Leu Pro	Leu Leu Ser Thr 80	
168 171 172 173 174 176 177 178 180 181 183 184 186 187 189 190 192 193	<pre>tata <210 <211 <212 <400 Met 1 His Pro His Lys 65</pre>	taago SI 1> LI 2> TY 3> OI 1> SI Leu Leu Asn Leu 50 Lys	Pro Arg Pro Arg Ala	PRT SM: Glu Pro 20 Pro Lys Gly Ser	Glyon Ser Asp Pro	eine Ala Pro Pro Lys Leu 70 Pro	max Leu Thr Lys Leu 55 Phe Glu	Gly Ala Pro 40 Leu Ser	Leu Lys 25 Arg His Leu	Leu 10 Ser Leu Tyr Tyr Lys 90	Val Lys Pro Ala Phe 75 Leu	Leu Ala Phe 60 Gly Phe	Ala Leu Ile 45 Ile Ser Leu	Leu Arg 30 Gly Asp Met	Phe 15 His His Leu Pro Thr 95	Leu Leu Ser Thr 80 His	
168 171 172 173 174 176 177 178 180 181 183 184 186 187 190 192 193 195 196	<pre>tata <210 <211 <212 <400 Met 1 His Pro His Cys 65 Val Glu</pre>	ataag D> SH D> LH D> TY B> OH D> SH Leu Asn Leu 50 Lys Val Ala	EQ II ENGTH PE: RGAND EQUEN Leu Arg Pro 35 Leu His Ala Thr	PRT SM: Glu Pro Lys Gly Ser 100	Glyo 2 Leu 5 Thr Ser Asp Pro Thr 85 Phe	cine Ala Pro Pro Lys Leu 70 Pro Asn	max Leu Thr Lys Leu 55 Phe Glu	Gly Ala Pro 40 Leu Ser Leu	Leu Lys 25 Arg His Leu Phe 105	Leu 10 Ser Leu Tyr Tyr Lys 90 Gln	Val Lys Pro Ala Phe 75 Leu	Leu Ala Phe 60 Gly Phe Ser	Ala Leu Ile 45 Ile Ser Leu	Leu Arg 30 Gly Asp Met Gln Ile 110	Phe 15 His His Leu Pro Thr 95 Arg	Leu Leu Ser Thr 80 His	
168 171 172 173 174 176 177 178 180 181 183 184 186 187 190 192 193 195 196 198	<pre>tata <210 <211 <212 <400 Met 1 His Pro His Cys 65 Val</pre>	ataag D> SH D> LH D> TY B> OH D> SH Leu Asn Leu 50 Lys Val Ala	EQ II ENGTH PE: RGAND EQUEN Leu Arg Pro 35 Leu His Ala Thr	PRT SM: Glu Pro Lys Gly Ser 100	Glyo 2 Leu 5 Thr Ser Asp Pro Thr 85 Phe	cine Ala Pro Pro Lys Leu 70 Pro Asn	max Leu Thr Lys Leu 55 Phe Glu	Gly Ala Pro 40 Leu Ser Leu	Leu Lys 25 Arg His Leu Phe 105	Leu 10 Ser Leu Tyr Tyr Lys 90 Gln	Val Lys Pro Ala Phe 75 Leu	Leu Ala Phe 60 Gly Phe Ser	Ala Leu Ile 45 Ile Ser Leu	Leu Arg 30 Gly Asp Met Gln Ile 110	Phe 15 His His Leu Pro Thr 95 Arg	Leu Leu Ser Thr 80 His	
168 171 172 173 174 176 177 178 180 181 183 184 189 190 192 193 195 196 198 199	<pre>tata <210 <211 <212 <400 Met 1 His Pro His Cys 65 Val Glu Leu</pre>	ataago SI l> LI l> LI l> TY l> SI Leu Leu Asn Leu 50 Lys Val Ala	Pro Arg Pro Arg Arg Arg Thr	PRT SM: CE: Glu Pro Pro Lys Gly Ser 100 Asp	Glyon Catgorian	cine Ala Pro Pro Lys Leu 70 Pro Asn Ser	max Leu Thr Lys Leu 55 Phe Glu Thr Val	Gly Ala Pro 40 Leu Ser Leu Arg Ala 120	Leu Lys 25 Arg His Leu Phe 105 Met	Leu 10 Ser Leu Tyr Tyr Lys 90 Gln Val	Val Lys Pro Ala Phe 75 Leu Thr	Leu Ala Phe 60 Gly Phe Ser	Ala Leu Ile 45 Ile Ser Leu Ala Gly 125	Leu Arg 30 Gly Asp Met Gln Ile 110 Pro	Phe 15 His His Leu Pro Thr 95 Arg	Leu Leu Ser Thr 80 His Arg	
168 171 172 173 174 176 177 178 180 181 183 184 186 187 190 192 193 195 196 199 201	tata <210 <211 <212 <400 Met 1 His Pro His Cys 65 Val Glu Leu Lys	ataago SI l> LI l> LI l> TY l> SI Leu Leu Asn Leu 50 Lys Val Ala Thr	Pro Arg Pro Arg Arg Arg Thr	PRT SM: CE: Glu Pro Pro Lys Gly Ser 100 Asp	Glyon Catgorian	cine Ala Pro Lys Leu 70 Pro Asn Ser Leu	max Leu Thr Lys Leu 55 Phe Glu Thr Val	Gly Ala Pro 40 Leu Ser Leu Arg Ala 120	Leu Lys 25 Arg His Leu Phe 105 Met	Leu 10 Ser Leu Tyr Tyr Lys 90 Gln Val	Val Lys Pro Ala Phe 75 Leu Thr	Leu Ala Phe Gly Phe Ser Phe	Ala Leu Ile 45 Ile Ser Leu Ala Gly 125	Leu Arg 30 Gly Asp Met Gln Ile 110 Pro	Phe 15 His His Leu Pro Thr 95 Arg	Leu Leu Ser Thr 80 His Arg	
168 171 172 173 174 176 177 178 180 181 183 184 189 190 192 193 195 196 198 199	tata <210 <211 <212 <400 Met 1 His Pro His Cys 65 Val Glu Leu Lys	ataago SI l> LI l> LI l> TY l> SI Leu Leu Asn Leu 50 Lys Val Ala	Pro Arg Pro Arg Arg Arg Thr	PRT SM: CE: Glu Pro Pro Lys Gly Ser 100 Asp	Glyon Catgorian	cine Ala Pro Lys Leu 70 Pro Asn Ser Leu	max Leu Thr Lys Leu 55 Phe Glu Thr Val	Gly Ala Pro 40 Leu Ser Leu Arg Ala 120	Leu Lys 25 Arg His Leu Phe 105 Met	Leu 10 Ser Leu Tyr Tyr Lys 90 Gln Val	Val Lys Pro Ala Phe 75 Leu Thr	Leu Ala Phe 60 Gly Phe Ser	Ala Leu Ile 45 Ile Ser Leu Ala Gly 125	Leu Arg 30 Gly Asp Met Gln Ile 110 Pro	Phe 15 His His Leu Pro Thr 95 Arg	Leu Leu Ser Thr 80 His Arg	

RAW SEQUENCE LISTING DATE: 10/04/2001 PATENT APPLICATION: US/09/936,190 TIME: 15:29:01

Input Set : A:\Nobf5002.app

Output Set: N:\CRF3\10042001\1936190.raw

	Val 145	Asn	Lys	Leu	Arg	Pro 150	Leu	Arg	Thr	Gln	Gln 155	Ile	Arg	Lys	Phe	Leu 160
	Arg	Val	Met	Ala	Gln 165	Gly	Ala	Glu	Ala	Gln 170	Lys	Pro	Leu	Asp	Leu 175	
210	Glu	Glu	Leu		Lys	Trp						Ser	Met			Leu
211213		Glu	Ala	180 Glu		Ile			185 Ile	Ala	Arg	Glu	Val	190 Leu	Lys	Ile
214			195		_		_•	200					205			
216 217		Gly 210	Glu	Tyr	Ser	Leu	Thr 215	Asp	Phe	Ile	Trp	Pro 220	Leu	Lys	His	Leu
		Val	Gly	Lys	Tyr			_		Asp	_			Asn	Lys	
	225					230										240
222223	Asp	Pro	Val	Val	Glu 245	Arg	Val	Ile	Lys	Lys 250	Arg	Arg	Glu	Ile	Val 255	Arg
	_	Arg	_		Gly	Glu	Val	Val		_			Ser	-	Val	Phe
				260				_						270	_	
228 229		Asp	Thr 275	Leu	Leu	Glu	Phe	Ala 280	Glu	Asp	Glu	Thr	Met 285	Glu	Ile	Lys
231 232		Thr 290	Lys	Asp	His	Ile	Lys 295	_	Leu			Asp 300	Phe	Phe	Ser	Ala
		Thr	Asp	Ser	Thr	Ala							Leu	Ala	Glu	Leu
	305		•			310					315					320
237	Ile	Asn	Asn	Pro	Lys	Val	·Leu	Glu	Lys	Ala	Arg	Glu	Glu	Val	Tyr	Ser
238		_			325			_		330			0	_	335	
	Val	Val	Gly		Asp	Arg	Leu	Val	_	Glu	Val	Asp	Thr		Asn	Leu
241	Dro	Птт	Tlo	340	אן א	т10	นาไ	T 110	345	mh -	nho	7 ×~	Wat	350	Dmo	Dwo
243	PIO	Tyr	355	Arg	нта	шe	vaı	360	GIU	FIII	Pne	Arg	365	нтѕ	PIO	PLO
	Leu	Pro		Val	Lvs	Arg	Lvs		Thr	Glu	Glu	Cvs		Ile	Asn	Glv
247		370			1	J	375	1				380				1
249	Tyr	Val	Ile	Pro	Glu	Gly	Ala	Leu	Ile	Leu	Phe	Asn	Val	Trp	Gln	Val
250	385					390					395			_		400
252	Gly	Arg	Asp	Pro	Lys	Tyr	Trp	Asp	Arg	Pro	Ser	Glu	Phe	Arg	Pro	Glu
253					405					410					415	
	Arg	Phe	Leu		Thr	Gly	Ala	Glu		Glu	Ala	Gly	Pro		Asp	Leu
256	3	01	a 1	420	Dh.	a 1	T	.	425	m 1	~ 1	~ .	a 1	430		
258 259	Arg	Gly	435	HIS	Pne	GIN	Leu	140	Pro	Pne	GTĀ	ser	_	Arg	Arg	мет
	Cve	Pro		Va l	λen	Lou	λla		Sor	C1v	Mot	λla	445	T OU	LOU	ת 1 ת
262	Суз	450	GIY	Val	ASII	пец	455	1111	261	Сту	Mec	460	1111	цец	ьeu	Ата
	Ser	Leu	Tle	Gln	Cvs	Phe		Len	Gln	Val	Leu		Pro	Gln	Glv	Gln
265				02	010	470	110 P	204	02	, 41	475	011	110	0411		480
267	Ile	Leu	Lys	Gly	Gly		Ala	Lys	Val	Ser		Glu	Glu	Arg	Ala	
268			-	-	485	<u> </u>		-		490				,	495	•
270	Leu	Thr	Val	Pro	Arg	Ala	His	Ser	Leu	Val	Cys	Val	Pro	Leu	Ala	Arg
271				500					505					510		
	Ile	Gly		Ala	Ser	Lys	Leu		Ser							
274	.000	· ~-	515		_			520								
2/8	<21()> SE	iQ II	NO:	3											

DATE: 10/04/2001 RAW SEQUENCE LISTING PATENT APPLICATION: US/09/936,190 TIME: 15:29:01

Input Set : A:\Nobf5002.app
Output Set: N:\CRF3\10042001\1936190.raw

				H: 5: PRT	23											
				ISM: NCE:		cyrr	hiza	ech	inat	a						
			_			Val	Ala	Val	Ser	Val	Leu	Val	Ser	Ala	Leu 15	Ile
	_	Tyr	Phe	Phe 20	_	Arg	Pro	Tyr	Phe 25		Arg	Tyr	Gly	Lys 30		Leu
	Pro	Pro	Ser 35		Phe	Phe	Arg	Leu 40		Ile	Ile	Gly	His 45		His	Met
	Leu	Gly 50	Pro	Leu	Leu	His	Gln 55		Phe	His	Asn	Leu 60		His	Arg	Tyr
	Gly 65	Pro		Phe	Ser	Leu 70		Phe	Gly	Ser	Val		Cys	Val	Val	Ala 80
			Pro	His	Phe 85		Lys	Gln	Leu	Leu 90	• -	Thr	Asn	Glu	Leu 95	
	Phe	Asn	Cys	Arg 100	_	Glu	Ser	Thr	Ala 105		Lys	Lys	Leu	Thr 110		Glu
	Ser	Ser	Leu 115	Ala	Phe	Ala	Pro	Tyr 120		Asp	Tyr	Trp	Arg 125		Ile	Lys
	Lys	Leu 130		Met	Asn	Glu			_	Ser	Arg	Ser 140		Asn	Asn	Phe
311	Gln 145		Leu	Arg	Ala	Gln 150				Gln	Leu 155		Arg	Leu	Leu	Ser 160
		Arg	Ala	Arg	Ala 165	Phe	Glu	Ala	Val	Asn 170	Ile	Thr	Glu	Glu	Leu 175	
317 318	Lys	Leu	Thr	Asn 180	Asn	Val	Ile	Ser	Ile 185	Met	Met	Val	Gly	Glu 190	Ala	Glu
320 321	Glu	Ala	Arg 195	Asp	Val	Val	Arg	Asp 200	Val	Thr	Glu	Ile	Phe 205	Gly	Glu	Phe
323 324	Asn	Val 210	Ser	Asp	Phe	Ile	Trp 215	Leu	Phe	Lys	Lys	Met 220	Asp	Leu	Gln	Gly
326 327		Gly	Lys	Arg	Ile	Glu 230	Asp	Leu	Phe	Gln	Arg 235	Phe	Asp	Thr	Leu	Val 240
329 330	Glu	Arg	Ile	Ile	Ser 245	Lys	Arg	Glu	Gln	Thr 250	Arg	Lys	Asp	Arg	Arg 255	Arg
332 333	Asn	Gly	Lys	Lys 260	Gly	Glu	Gln	Gly	Ser 265	Gly	Asp	Gly	Ile	Arg 270	Asp	Phe
335 336	Leu	Asp	Ile 275	Leu	Leu	Asp	Cys	Thr 280	Glu	Asp	Glu	Asn	Ser 285	Glu	Ile	Lys
338 339	Ile	Gln 290	Arg	Val	His	Ile	Lys 295	Ala	Leu	Ile	Met	Asp 300	Phe	Phe	Thr	Ala
341 342		Thr	Asp	Thr	Thr	Ala 310	Ile	Ser	Thr	Glu	Trp 315	Ala	Leu	Val	Glu	Leu 320
344 345	Val	Lys	Lys	Pro	Ser 325	Val	Leu	Gln	Lys	Val 330	Arg	Glu	Glu	Ile	Asp 335	Asn
347 348	Val	Val	Gly	Lys 340	Asp	Arg	Leu	Val	Glu 345	Glu	Ser	Asp	Cys	Pro 350	Asn	Leu
350	Pro	Tyr	Leu	Gln	Ala	Ile	Leu	Lys	Glu	Thr	Phe	Arg	Leu	His	Pro	Pro

VERIFICATION SUMMARY

PATENT APPLICATION: US/09/936,190

DATE: 10/04/2001

TIME: 15:29:02

Input Set : A:\Nobf5002.app

Output Set: N:\CRF3\10042001\I936190.raw

L:10 M:270 C: Current Application Number differs, Replaced Current Application Number

L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date